interpolating the first and second vertex angle coordinates to provide first and second

angle coordinates for each pixel in a polygon, the first and second angle

coordinates representing a direction of the vertex vector at the pixel;

modifying the estimated angle coordinates, using a perturbation source;

converting the modified angle coordinates to one or more color variables; and

assigning the pixel a color value from the table of color values according to the one or

more color variables.

2. (Unamended) The method of claim 1, wherein modifying the estimated angle coordinates

includes:

generating angle perturbations; and

combining the angle perturbations with the angle coordinates.

3. (Unamended) The method of claim 2, wherein generating angle perturbations comprises:

estimating bump coordinates for the pixel; and

converting the bump coordinates to angle perturbations.

4. (Unamended) The method of claim 3, wherein converting the bump coordinates comprises

retrieving angle perturbations from a bump map location referenced by the bump coordinates.

5. (Unamended) The method of claim 1, wherein estimating angle coordinates comprises:

determining angle coordinates for normal vector orientations at vertices of the polygon;

interpolating angle coordinates for the pixel from the determined angle coordinates.

6. (Unamended) The method of claim 3, wherein estimating the bump coordinates comprises:

determining bump coordinates for vertices of the polygon;

interpolating bump coordinates for the pixel from the determined vertex bump coordinates.

7. (Thrice Amended) A graphics system comprising:

a geometry engine to associate vector orientation data with vertices of one or more polygons representing an object in an image;

a color map including color values for a sample of vector orientations, each color value to be referenced by one or more orientation dependent color variables;

a perturbation source to provide orientation perturbations; and

a rendering engine to convert a vertex vector and a vertex perturbation to a pair of vertex angles and a pair of vertex perturbation values, respectively, estimate pairs of angle coordinates and perturbation coordinates for each pixel in the polygon from the pairs of vertex angles and perturbation values, respectively, generate one or more perturbed color variables using the pairs of angle coordinates and perturbation coordinates, and assign a color value from the color map to each pixel according to its one or more color variables.

8. (Unamended) The graphics system of claim 7, wherein the orientation-dependent color variables are linearly related to angle coordinates that specify the sampled vector orientations.

9. (Unamended) The graphics system of claim 7, wherein the perturbation source is a bump map including angle perturbations referenced by the perturbation coordinates.

10. (Unamended) The graphics system of claim 9, wherein the rendering engine includes a generator that combines the angle coordinates and angle perturbations into perturbed color coordinates.

11. (Unamended) The graphics system of claim 7, wherein the perturbation source is an algorithm for associating perturbations with polygon locations according to a property of the image.

12. (Thrice Amended) A machine readable medium on which are stored instructions that are executable by a system to implement a method for assigning a color value to an image pixel, the method comprising:

generating color values for a sample of normal vector orientations, each color value being associated with one or more scaled angle coordinates representing a corresponding normal vector orientation;

estimating first and second angle coordinates for the pixel from angle coordinates associated with a vertex vector;

perturbing the first and second angle coordinates to provide modified first and second angle coordinates; and

retrieving at least one of the color values for the pixel according to the perturbed first and second angle coordinates.

13. (Unamended) The machine readable medium of claim 12, wherein perturbing comprises:

generating first and second angle perturbations for the pixel; and

combining the first and second angle perturbations with the first and second angle coordinates to form modified first and second angle coordinates.

14. (Unamended) The machine readable storage medium of claim 12, wherein estimating comprises:

interpolating the first and second angle coordinates for the pixel from the angle coordinates associated with the vertex vector; and

converting the interpolated first and second angle coordinates to scaled angle coordinates.

15. (Thrice Amended) A graphics system comprising:

    means for associating a plurality of vertex angles with each vertex of one or more

    polygons representing an object in an image;

    means for indicating color values for a sample of vector orientations, each color value to

    be referenced by one or more orientation dependent color variables;

    means for providing orientation perturbations; and

    means for converting the plurality of vertex angles for each polygon to a plurality of

    angle coordinates and perturbation coordinates for each pixel in the polygon; and

    means for combining the angle and perturbation coordinates to generate a perturbed color

    variable and to provide at least one of the color values for each pixel with the

    perturbed color variable.

16. (Unamended) The graphics system of claim 15, wherein the providing means is a bump map including angle perturbations referenced by the perturbation coordinates.

17. (Unamended) The graphics system of claim 16, wherein the combining means includes a generator that combines the angle coordinates and angle perturbations into perturbed color coordinates

18. (Unamended) A system comprising:

    a graphics pipeline; and

    a memory, in which are stored instructions that are executable by the graphics pipeline to

    implement a method for assigning a color value to a pixel, the method

    comprising:

generating color values for a sample of vector orientations, each color value being

associated with first and second angle coordinates representing a

corresponding vector orientation;

determining a pair of vertex angle coordinates for each vertex vector of a polygon

that includes the pixel;

interpolating the pairs of vertex angle coordinates to provide first and second

angle coordinates for the pixel;

perturbing the first and second angle coordinates to provide modified first and

second angle coordinates; and

retrieving a color value for the pixel according to the perturbed first and second

angle coordinates.

19. (Unamended) The system of claim 18, wherein each color value is associated with first and

second angle coordinates through one or more angle coordinates that index the color value.

20. (Unamended) The system of claim 18, wherein the graphics pipeline includes texture

mapping hardware and the color values are accessed using the texture mapping hardware.

21. (New Claim) A computer implemented method comprising:

generating a plurality of color values for a sample of vector orientations based on

properties of a polygon that includes a pixel;

determining a pair of angle coordinates for the pixel from a set of one or more vertex

normals of the polygon;

interpolating the pair of angle coordinates;

modifying the interpolated pair of angle coordinates with a perturbation value;

determining a color variable with the modified interpolated pair of angle coordinates;

assigning at least one of the plurality of color values to the pixel in accordance with the color variable.